

**ABSTRACT OF THE DISCLOSURE**

A method for loading a preservative into a biological sample comprising providing a preservative solution having a preservative, water and protein, and loading a biological sample with the preservative solution to produce a preservative-loaded biological sample having the preservative solution generally including higher glass transition temperatures than glass transition temperatures for a preservative solution having the preservative, water and no protein. A process for processing biological samples comprising suspending biological samples in a preservative solution at a concentration greater than about  $10^8$  platelets per ml. of preservative solution to produce preservative-loaded biological samples, freeze-drying the preservative-loaded biological samples, and recovering at least 75% of the freeze-dried biological samples. A biological sample composition comprising a biological sample loaded with a preservative solution having a preservative, water, and protein, and generally further having higher glass transition temperatures than glass transition temperatures for the biological sample loaded with the preservative, water, but no protein.